

**Surface Mount Type Tantalum  
Solid Electrolytic Capacitors**Series: **TE**Type: **T**Japan  
China

Surface mount type

**■ Features**

- Compact size and wide capacitance range
- Excellent performance in temperature and frequency characteristics
- Excellent solderability
- Excellent terminal construction against bending of P.W.B.
- Low inductance

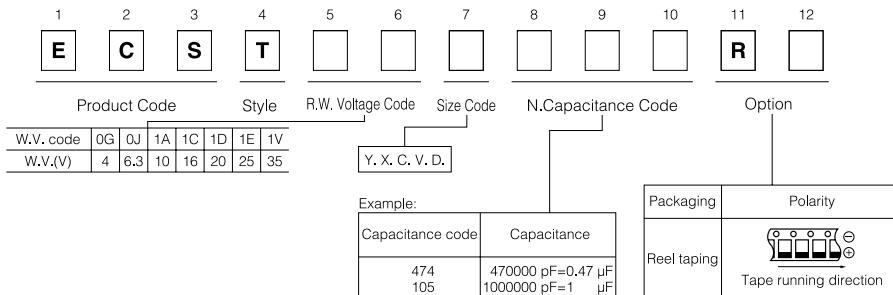
**■ Recommended Applications**

- Camcorder, portable telephones, headphone stereo, compact size electronic equipment

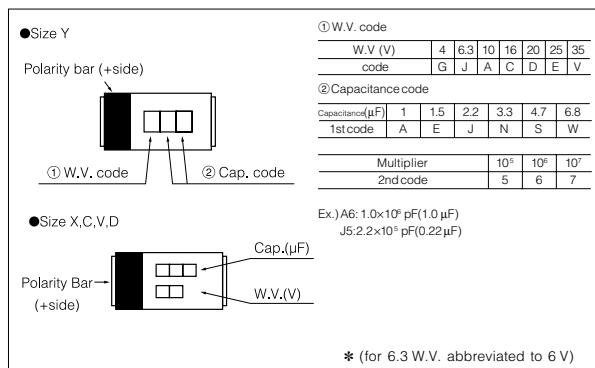
**■ Specifications**

Operating Temp. Range	-55 to +125 °C							
Rated W.V. Range	4 to 35 V.DC							
Nominal Cap. Range	0.1 to 220 $\mu$ F							
Capacitance Tolerance	$\pm 20\%$ (120 Hz/+20 °C)							
DC Leakage Current	I $\leq$ 0.01 CV or 0.5 ( $\mu$ A) after 2 minutes application of rated working voltage at +20 °C	( Whichever, greater )						
Dissipation Factor	Please see " Standard Products " table.							
Resistance to Soldering Heat	The capacitor shall withstand dipping into solder for 5±1 seconds at +260±5 °C							
Moisture Resistance	After 500 hours exposure at +40 °C and 90 to 95 % R.H. without load, the capacitor shall meet the following limits.  <table border="1"><tbody><tr><td>Capacitance change</td><td><math>\pm 10\%</math> of initial measured value</td></tr><tr><td>D.F.</td><td><math>\leq</math> Initial specified value</td></tr><tr><td>DC leakage current</td><td><math>\leq</math> Initial specified value</td></tr></tbody></table>		Capacitance change	$\pm 10\%$ of initial measured value	D.F.	$\leq$ Initial specified value	DC leakage current	$\leq$ Initial specified value
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D.F.	$\leq$ Initial specified value							
DC leakage current	$\leq$ Initial specified value							
Endurance	After 2000 hours application of rated DC working voltage at +85 °C or derated voltage at +125 °C, the capacitor shall meet the following limits.  <table border="1"><tbody><tr><td>Capacitance change</td><td><math>\pm 10\%</math> of initial measured value</td></tr><tr><td>D.F.</td><td><math>\leq</math> Initial specified value</td></tr><tr><td>DC leakage current</td><td><math>\leq 125\%</math> of initial specified value</td></tr></tbody></table>		Capacitance change	$\pm 10\%$ of initial measured value	D.F.	$\leq$ Initial specified value	DC leakage current	$\leq 125\%$ of initial specified value
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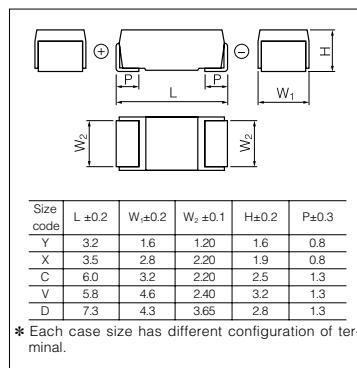
### ■ Explanation of Part Numbers



### ■ Marking



### ■ Dimensions in mm (not to scale)



### ■ Case size

W.V. (V.D.C) Cap.(µF)	4 (0G)		6.3 (0J)		10 (1A)		16 (1C)		20 (1D)		25 (1E)		35 (1V)	
	Standard	Miniature												
0.10 (104)														Y
0.15 (154)	I		I		I		I		I		I			Y
0.22 (224)	I		I		I		I		I		I			Y
0.33 (334)	I		I		I		I		I		I			Y
0.47 (474)	I		I		I		I		I		I			Y
0.68 (684)	I		I		I		Y	I	Y	I	Y			Y
1.0 (105)	I		I		I		Y	I	I		Y		X	Y
1.5 (155)	I		I		I		Y	I	Y	I	X	Y	X	
2.2 (225)	I		I		Y	I	Y	I	X	Y	X		X	
3.3 (335)	I	Y	I	Y	I	Y	I	X	Y	X	C	X	C	
4.7 (475)	Y	I	Y	I	Y	I	Y	I	X	C	X	C	C	
6.8 (685)	Y	I	Y	I	Y	I	X	C	X	C	C	X	D,V	C
10 (106)	Y	I	Y	I	X	Y	X	C	X	D,V	C	D	V	
15 (156)	Y	I	X	Y	X	I	C	X	D,V	C	D	V		D
22 (226)	X	Y	X	I	C	X	D,V	C	D,V			D		
33 (336)	X	I	C	X	D,V	C,X	D,V	C	D	V				
47 (476)	C	X	D,V	C,X	D,V	C	D	V						
68 (686)	D,V	C	D,V	C	D	V		D						
100 (107)	D,V	C	D	V		D								
150 (157)	D	V	D											
220 (227)		D												

- Note:
- ( ) shows W.V. and capacitance code.
  - When selecting W.V., see the page 230.
  - We would like to recommend current sizes in above table for new design, but conventional case sizes are available on request.
  - Other rating upon request (voltage, capacitance, tolerance, size)

### ■ Standard Products

W.V. (V)	Cap. (±20%) (μF)	Case Size		Specification		Part No.	Min. Packaging Q'ty Taping (pcs)
		L x W x H (mm)	Size Code	D.F. (μA)	L.C (μA)		
4	4.7	3.2x1.6x1.6	Y	0.06	0.5	ECST0GY475R	2000
	6.8	3.2x1.6x1.6	Y	0.06	0.5	ECST0GY685R	2000
	10	3.2x1.6x1.6	Y	0.06	0.5	ECST0GY106R	2000
	15	3.2x1.6x1.6	Y	0.06	0.6	ECST0GY156R	2000
	22	3.2x1.6x1.6	Y	0.06	0.9	ECST0GY226R	2000
		3.5x2.8x1.9	X	0.06	0.9	ECST0GX226R	2000
	33	3.5x2.8x1.9	X	0.06	1.4	ECST0GX336R	2000
	47	3.5x2.8x1.9	X	0.06	1.9	ECST0GX476R	2000
		6.0x3.2x2.5	C	0.06	1.9	ECST0GC476R	750
	68	6.0x3.2x2.5	C	0.06	2.8	ECST0GC686R	750
		5.8x4.6x3.2	V	0.06	2.8	ECST0GV686R	500
		7.3x4.3x2.8	D	0.06	2.8	ECST0GD686R	750
	100	6.0x3.2x2.5	C	0.08	4.0	ECST0GC107R	750
		5.8x4.6x3.2	V	0.08	4.0	ECST0GV107R	500
		7.3x4.3x2.8	D	0.08	4.0	ECST0GD107R	750
6.3	150	5.8x4.6x3.2	V	0.08	6.0	ECST0GV157R	500
		7.3x4.3x2.8	D	0.08	6.0	ECST0GD157R	750
	220	7.3x4.3x2.8	D	0.12	8.8	ECST0GD227R	750
	3.3	3.2x1.6x1.6	Y	0.04	0.5	ECST0JY335R	2000
	4.7	3.2x1.6x1.6	Y	0.06	0.5	ECST0JY475R	2000
	6.8	3.2x1.6x1.6	Y	0.06	0.5	ECST0JY685R	2000
	10	3.2x1.6x1.6	Y	0.06	0.7	ECST0JY106R	2000
	15	3.2x1.6x1.6	Y	0.06	1.0	ECST0JY156R	2000
		3.5x2.8x1.9	X	0.06	1.0	ECST0JX156R	2000
	22	3.5x2.8x1.9	X	0.06	1.4	ECST0JX226R	2000
	33	3.5x2.8x1.9	X	0.06	2.1	ECST0JX336R	2000
		6.0x3.2x2.5	C	0.06	2.1	ECST0JC336R	750
	47	3.5x2.8x1.9	X	0.12	3.0	ECST0JX476R	2000
		6.0x3.2x2.5	C	0.06	3.0	ECST0JC476R	750
	5.8x4.6x3.2	V	0.06	3.0	ECST0JV476R	500	
	7.3x4.3x2.8	D	0.06	3.0	ECST0JD476R	750	
10	68	6.0x3.2x2.5	C	0.06	4.3	ECST0JC686R	750
		5.8x4.6x3.2	V	0.06	4.3	ECST0JV686R	500
		7.3x4.3x2.8	D	0.06	4.3	ECST0JD686R	750
	100	5.8x4.6x3.2	V	0.08	6.3	ECST0JV107R	500
		7.3x4.3x2.8	D	0.08	6.3	ECST0JD107R	750
10	150	7.3x4.3x2.8	D	0.08	9.5	ECST0JD157R	750
	2.2	3.2x1.6x1.6	Y	0.04	0.5	ECST1AY225R	2000
	3.3	3.2x1.6x1.6	Y	0.04	0.5	ECST1AY335R	2000
	4.7	3.2x1.6x1.6	Y	0.06	0.5	ECST1AY475R	2000
	6.8	3.2x1.6x1.6	Y	0.06	0.7	ECST1AY685R	2000

### ■ Standard Products

W.V. (V)	Cap. (±20%) (μF)	Case Size		Specification		Part No.	Min. Packaging Q'ty
		L x W x H (mm)	Size Code	D.F.	L.C (μA)		
10	10	3.2x1.6x1.6	Y	0.06	1.0	ECST1AY106R	2000
		3.5x2.8x1.9	X	0.06	1.0	ECST1AX106R	2000
		3.5x2.8x1.9	X	0.06	1.5	ECST1AX156R	2000
		3.5x2.8x1.9	X	0.06	2.2	ECST1AX226R	2000
		6.0x3.2x2.5	C	0.06	2.2	ECST1AC226R	750
		3.5x2.8x1.9	X	0.08	3.3	ECST1AX336R	2000
		6.0x3.2x2.5	C	0.06	3.3	ECST1AC336R	750
		5.8x4.6x3.2	V	0.06	3.3	ECST1AV336R	500
		7.3x4.3x2.8	D	0.06	3.3	ECST1AD336R	750
		6.0x3.2x2.5	C	0.06	4.7	ECST1AC476R	750
	47	5.8x4.6x3.2	V	0.06	4.7	ECST1AV476R	500
		7.3x4.3x2.8	D	0.06	4.7	ECST1AD476R	750
		5.8x4.6x3.2	V	0.06	6.8	ECST1AV686R	500
	68	7.3x4.3x2.8	D	0.06	6.8	ECST1AD686R	750
		7.3x4.3x2.8	D	0.08	10.0	ECST1AD107R	750
16	0.68	3.2x1.6x1.6	Y	0.04	0.5	ECST1CY684R	2000
	1	3.2x1.6x1.6	Y	0.04	0.5	ECST1CY105R	2000
	1.5	3.2x1.6x1.6	Y	0.04	0.5	ECST1CY155R	2000
	2.2	3.2x1.6x1.6	Y	0.04	0.5	ECST1CY225R	2000
	3.3	3.2x1.6x1.6	Y	0.04	0.6	ECST1CY335R	2000
	4.7	3.2x1.6x1.6	Y	0.06	0.8	ECST1CY475R	2000
	6.8	3.5x2.8x1.9	X	0.06	1.1	ECST1CX685R	2000
	10	3.5x2.8x1.9	X	0.06	1.6	ECST1CX106R	2000
	15	3.5x2.8x1.9	X	0.06	2.4	ECST1CX156R	2000
	16	6.0x3.2x2.5	C	0.06	2.4	ECST1CC156R	750
		6.0x3.2x2.5	C	0.06	3.6	ECST1CC226R	750
		5.8x4.6x3.2	V	0.06	3.6	ECST1CV226R	500
	22	7.3x4.3x2.8	D	0.06	3.6	ECST1CD226R	750
		6.0x3.2x2.5	C	0.06	5.3	ECST1CC336R	750
		5.8x4.6x3.2	V	0.06	5.3	ECST1CV336R	500
	33	7.3x4.3x2.8	D	0.06	5.3	ECST1CD336R	750
		5.8x4.6x3.2	V	0.06	7.6	ECST1CV476R	500
		7.3x4.3x2.8	D	0.06	7.6	ECST1CD476R	750
	68	7.3x4.3x2.8	D	0.06	10.9	ECST1CD686R	750
20	0.68	3.2x1.6x1.6	Y	0.04	0.5	ECST1DY684R	2000
	1.5	3.2x1.6x1.6	Y	0.04	0.5	ECST1DY155R	2000
	2.2	3.2x1.6x1.6	Y	0.04	0.5	ECST1DY225R	2000
	2.2	3.5x2.8x1.9	X	0.04	0.5	ECST1DX225R	2000
		3.2x1.6x1.6	Y	0.04	0.7	ECST1DY335R	2000
	3.3	3.5x2.8x1.9	X	0.04	0.7	ECST1DX335R	2000
		3.5x2.8x1.9	X	0.06	1.0	ECST1DX475R	2000
	4.7	3.5x2.8x1.9	X	0.06	1.4	ECST1DX685R	2000

### ■ Standard Products

W.V. (V)	Cap. (±20%) (μF)	Case Size		Specification		Part No.	Min. Packaging Qty
		L×W×H (mm)	Size Code	D.F.	L.C (μA)		
20	6.8	6.0x3.2x2.5	C	0.06	1.4	ECST1DC685R	750
	10	3.5x2.8x1.9	X	0.06	2.0	ECST1DX106R	2000
		6.0x3.2x2.5	C	0.06	2.0	ECST1DC106R	750
	15	6.0x3.2x2.5	C	0.06	3.0	ECST1DC156R	750
		5.8x4.6x3.2	V	0.06	3.0	ECST1DV156R	500
		7.3x4.3x2.8	D	0.06	3.0	ECST1DD156R	750
	22	5.8x4.6x3.2	V	0.06	4.4	ECST1DV226R	500
		7.3x4.3x2.8	D	0.06	4.4	ECST1DD226R	750
	33	5.8x4.6x3.2	V	0.06	6.6	ECST1DV336R	500
		7.3x4.3x2.8	D	0.06	6.6	ECST1DD336R	750
25	0.47	3.2x1.6x1.6	Y	0.04	0.5	ECST1EY474R	2000
	1	3.2x1.6x1.6	Y	0.04	0.5	ECST1EY105R	2000
	1.5	3.2x1.6x1.6	Y	0.04	0.5	ECST1EY155R	2000
		3.5x2.8x1.9	X	0.04	0.5	ECST1EX155R	2000
	2.2	3.5x2.8x1.9	X	0.04	0.6	ECST1EX225R	2000
	3.3	3.5x2.8x1.9	X	0.04	0.9	ECST1EX335R	2000
	4.7	3.5x2.8x1.9	X	0.06	1.2	ECST1EX475R	2000
		6.0x3.2x2.5	C	0.06	1.2	ECST1EC475R	750
	6.8	6.0x3.2x2.5	C	0.06	1.7	ECST1EC685R	750
	10	6.0x3.2x2.5	C	0.06	2.5	ECST1EC106R	750
		5.8x4.6x3.2	V	0.06	2.5	ECST1EV106R	500
		7.3x4.3x2.8	D	0.06	2.5	ECST1ED106R	750
	15	5.8x4.6x3.2	V	0.06	3.8	ECST1EV156R	500
		7.3x4.3x2.8	D	0.06	3.8	ECST1ED156R	750
	22	7.3x4.3x2.8	D	0.06	5.5	ECST1ED226R	750
35	0.1	3.2x1.6x1.6	Y	0.04	0.5	ECST1VY104R	2000
	0.15	3.2x1.6x1.6	Y	0.04	0.5	ECST1VY154R	2000
	0.22	3.2x1.6x1.6	Y	0.04	0.5	ECST1VY224R	2000
	0.33	3.2x1.6x1.6	Y	0.04	0.5	ECST1VY334R	2000
	0.47	3.2x1.6x1.6	Y	0.04	0.5	ECST1VY474R	2000
	0.68	3.2x1.6x1.6	Y	0.04	0.5	ECST1VY684R	2000
	1	3.2x1.6x1.6	Y	0.04	0.5	ECST1VY105R	2000
		3.5x2.8x1.9	X	0.04	0.5	ECST1VX105R	2000
	1.5	3.5x2.8x1.9	X	0.04	0.6	ECST1VX155R	2000
	2.2	3.5x2.8x1.9	X	0.04	0.8	ECST1VX225R	2000
	3.3	3.5x2.8x1.9	X	0.04	1.2	ECST1VX335R	2000
		6.0x3.2x2.5	C	0.04	1.2	ECST1VC335R	750
	4.7	6.0x3.2x2.5	C	0.06	1.7	ECST1VC475R	750
	6.8	6.0x3.2x2.5	C	0.06	2.4	ECST1VC685R	750
		5.8x4.6x3.2	V	0.06	2.4	ECST1VV685R	500
		7.3x4.3x2.8	D	0.06	2.4	ECST1VD685R	750
	10	5.8x4.6x3.2	V	0.06	3.5	ECST1VV106R	500
		7.3x4.3x2.8	D	0.06	3.5	ECST1VD106R	750
	15	7.3x4.3x2.8	D	0.06	5.3	ECST1VD156R	750